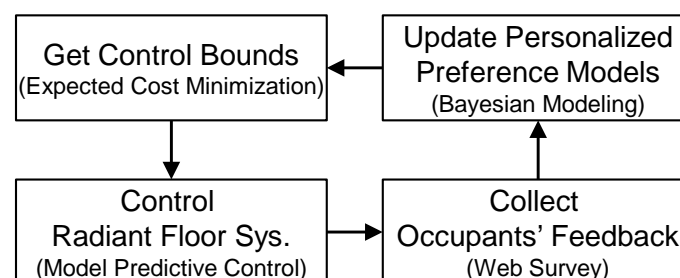


## Project Description

- Providing personalized/localized thermal environments toward maximizing occupants' satisfaction and HVAC energy efficiency
- Learning occupants' preference from their feedback and behaviors
- Integrating personalized preference models into a MPC controller

## Approach

- Conduct an experiment with real occupants in LivingLab 1 to demonstrate a self-tuned HVAC system

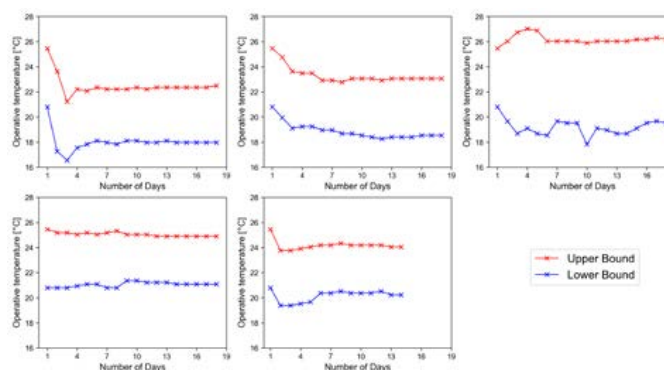


## Discussion

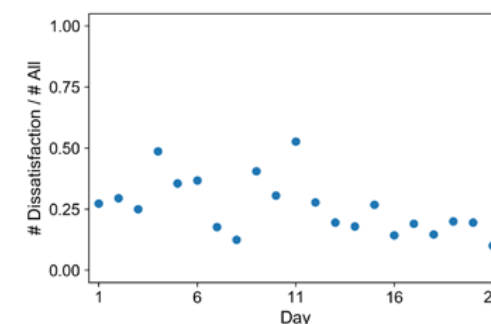
- The system is self-tuned with occupants' feedback and the proposed algorithm
- Supplementary simulation studies will be conducted to
  - 1) Evaluate the controller objectively
  - 2) Investigate the effect of different settings in the algorithm

## Results

- Evolution of control bounds



- Improvement of thermal conditions (decrease in the normalized number of dissatisfaction votes)



**Toward a new paradigm: Personalized Thermal Environments**